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| APPLICATION NO. | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. | CONFIRMATION NO. |
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| 10/653,798 | 09/03/2003 | Stephen Palm | BP2488.1 | 4537 |

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| EXAMINER |
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ZEWDU, MELESS NMN

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| ART UNIT | PAPER NUMBER |
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2617

| SHORTENED STATUTORY PERIOD OF RESPONSE | MAIL DATE | DELIVERY MODE |
|--|------------|---------------|
| 3 MONTHS | 01/19/2007 | PAPER |

Please find below and/or attached an Office communication concerning this application or proceeding.

If NO period for reply is specified above, the maximum statutory period will apply and will expire 6 MONTHS from the mailing date of this communication.

| | | | |
|------------------------------|------------------------|---------------------|--|
| Office Action Summary | Application No. | Applicant(s) | |
| | 10/653,798 | PALM ET AL. | |
| | Examiner | Art Unit | |
| | Meless N. Zewdu | 2617 | |

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-26 is/are pending in the application.
- 4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) ____ is/are allowed.
- 6) ☒ Claim(s) 1-26 is/are rejected.
- 7) ☐ Claim(s) ____ is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 03 September 2003 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
 Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
 Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. ____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) Paper No(s)/Mail Date. ____. |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date ____. | 6) <input type="checkbox"/> Other: ____. |

DETAILED ACTION

1. This action is the first on the merit of the instant application.
2. Claims 1-26 are pending in this action.

Double Patenting

The nonstatutory double patenting rejection is based on a judicially created doctrine grounded in public policy (a policy reflected in the statute) so as to prevent the unjustified or improper timewise extension of the "right to exclude" granted by a patent and to prevent possible harassment by multiple assignees. A nonstatutory obviousness-type double patenting rejection is appropriate where the conflicting claims are not identical, but at least one examined application claim is not patentably distinct from the reference claim(s) because the examined application claim is either anticipated by, or would have been obvious over, the reference claim(s). See, e.g., *In re Berg*, 140 F.3d 1428, 46 USPQ2d 1226 (Fed. Cir. 1998); *In re Goodman*, 11 F.3d 1046, 29 USPQ2d 2010 (Fed. Cir. 1993); *In re Longi*, 759 F.2d 887, 225 USPQ 645 (Fed. Cir. 1985); *In re Van Ornum*, 686 F.2d 937, 214 USPQ 761 (CCPA 1982); *In re Vogel*, 422 F.2d 438, 164 USPQ 619 (CCPA 1970); and *In re Thorington*, 418 F.2d 528, 163 USPQ 644 (CCPA 1969).

A timely filed terminal disclaimer in compliance with 37 CFR 1.321(c) or 1.321(d) may be used to overcome an actual or provisional rejection based on a nonstatutory double patenting ground provided the conflicting application or patent either is shown to be commonly owned with this application, or claims an invention made as a result of activities undertaken within the scope of a joint research agreement.

Effective January 1, 1994, a registered attorney or agent of record may sign a terminal disclaimer. A terminal disclaimer signed by the assignee must fully comply with 37 CFR 3.73(b).

Claims 1-26 are provisionally rejected on the ground of nonstatutory obviousness-type double patenting as being unpatentable over claims 41 of copending Application No. 10/660,849. Although the conflicting claims are not identical, they are not patentably distinct from each other because the difference between the claims in the

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instant application and claims in the copending application is that the claims in the instant application are broader than the claims in the copending application..

This is a provisional obviousness-type double patenting rejection because the conflicting claims have not in fact been patented.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 1-6, 9-14, 17-24 are rejected under 35 U.S.C. 103(a) as being unpatentable over Seppala et al. (Seppala) (US 7,120,131 B2) in view of Abramov et al. (Abramov) (US 6,486,832 B1).

As per claim 1: a method for operating a wireless terminal within a Wireless Local Area Network (WLAN) (see col. 6, line 55-col. 7, line 2), the method comprising:

listening to a plurality of beacons transmitted by a corresponding plurality of Wireless Access Point (WAPs) of the WLAN (see col. 7, line 60-col. 8, line 3), wherein listening is inherent to the communication that takes place and the beacon is the advertising message broadcast by the APs;

characterizing the plurality of beacons with regard to signal quality (see col. 7, line 67-col. 8, line 20);

based upon the characterization, selecting a desired WAP of the plurality of WAPS (see col. 7, line 67-col. 8, line 20);

associating/select with the desired WAP of the plurality of Waps (see col. 8, lines 4-20). But, Seppala does not explicitly teach about adjusting a gain vector of a servicing antenna of the wireless terminal so that it is substantially directed toward the desired WAP of the plurality of WAPS, as claimed by applicant. However, in the same field of endeavor, Abramov teaches about direction agile-antenna system for wireless communications, wherein the directivity of the antenna is adjusted/changed based on the antenna gain (see at least col. 3, lines 18-41; col. 5, lines 443-55; col. 6, lines 32-40). It is to noted that RF gain is a vector function and further, when the references are combined the agile-directional antenna will be able to direct to a selected AP, as a desired direction. Therefore, it would have been obvious for one of ordinary skill in the art at the time the invention was made to modify the teaching of Seppala with that of Abramov for the advantage of establishing high data links in a mobile wireless network with a high degree of data integrity while obviating the need for high power RF transmission (see col. 1, lines 38-45).

As per claim 2: the network is a mobile wireless. Hence, when the mobile returns to its previous position or when it reattaches to a previous AP, it will have to listening and characterizing the signal/beacon again. Hence, the features of claim 2 are essentially similar to the features of claim 1, except associating with different WAP of the plurality of WAPs, which is taught by Seppala (see col. 7, lines 24-44).

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As per claim 3: Abramov teaches a method, wherein the step of listening to the plurality of beacons comprises:

sweeping/scanning the gain vector of the servicing antenna (see col. 4, lines 35-67);

detecting a beacon/beam (see col. 6, lines 6-17; and

characterizing the beacon when the gain vector of the servicing antenna is substantially directed toward the beacon (see col. 6, lines 33-40).

As per claim 4: Abramov teaches a method, wherein characterizing the plurality of beacons with regard to signal quality comprises measuring a signal strength of at least some of the plurality of beacons (see col. 6, lines 32-40).

As per claim 5: Abramov teaches a method, wherein characterizing the plurality of beacons with regard to signal quality comprises measuring a signal to noise ratio corresponding to at least some of the plurality of beacons (see col. 6, lines 32-40; col. 1, lines 24-28).

As per claim 6: Seppala teaches a method, wherein characterizing the plurality of beacons with regard to signal quality comprises:

receiving loading data carried by at least some of the plurality of beacons (see col. 7, lines 45-59); and

processing received loading data to determine the desired WAP of the plurality of WAPS (see col. 7, line 45-col. 8, line 20).

As per claim 9: most of the features of claim 9 are similar to the features of claim 1, except the following:

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a directional antenna, which is taught by Abramov (see fig. 5);

a radio frequency unit operably coupled to the directional antenna, which is also taught by Abramov (see figs. 9 and 10; col. 3, lines 18-67); and

a processor/controller operably coupled to the radio frequency unit (see figs. 3 and 4; col. 3, lines 18-67; col. 4, lines 1-27). Motivation is same as provided in the rejection of claim 1.

As per claim 10: claim 10, which incorporates features from claims 1 and 2, calls for a processor/controller that operates to execute instructions to perform the functions recited in claims 1 and 2. Since, the features of claims 1 and 2 are shown to have been taught by the combined prior art of reference, claim 10 is rejected on the same ground and motivation as claims 1 and 2.

As per claim 11: the features of claim 11 are similar to the features of claim 3. Hence, claim 11 is rejected on the same ground and motivation as claim 3.

As per claim 12: the feature of claim 12 is similar to the features of claims 4 and 5. Hence, claim 12 is rejected on the same ground and motivation as claims 4 and 5.

As per claim 13: the feature of claim 13 is similar to the features of claim s 4 and 5. Hence, claim 13 is rejected on the same ground and motivation as claims 4 and 5.

As per claim 14: the feature of claim 14 is similar to the feature of claim 6. Hence, claim 14 is rejected on the same ground and motivation as claim 6.

As per claim 17: Abramov teaches a wireless terminal, (see fig. 5), wherein the directional antenna comprises:

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a single antenna having a plurality of antenna elements (see fig. 5; col. 2, line 66-col. 3, line 12); and

a directional antenna controller operably coupled to the single antenna and to the radio frequency unit (see fig. 5; col. 3, lines 17-52).

As per claim 18: Abramov teaches a wireless terminal (see fig. 5), wherein the directional antenna comprises:

a plurality of antennas (see fig. 5; col. 2, line 66-col. 3, line 12); and

a directional antenna controller operably coupled to the plurality of antennas and to the radio frequency unit (see fig. 5; col. 3, lines 17-52).

As per claim 19: the features of claim 19 are similar to the features of claim 1, except claim 19 is directed to a means to perform the steps of method claim 1. But, since the steps of claim 1 are performed, the means is obvious and claim 19 is rejected on the same ground and motivation as claim 1.

As per claim 20: the features of claim 20 are similar to the features of claim 2, except claim 20 is directed to a means claim required to perform the steps of claim 2. But, since the steps of claim 2 are performed, the means is obvious and claim 20 is rejected on the same ground and motivation as claim 2.

As per claim 21: the features of claim 21 are similar to the features of claim 3. hence, claim 21 is rejected on the same ground and motivation as claim 3.

As per claim 22: the feature claim 22 is similar to the feature of claim 4. Hence, claim 22 is rejected on the same ground and motivation as claim 4.

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As per claim 23: the feature of claim 23 is similar to the feature of claim 5. Hence, claim 23 is rejected on the same ground and motivation as claim 5.

As per claim 24: the features of claim 24 are similar to the features of claim 6. Hence, claim 24 is rejected on the same ground and motivation as claim 6.

Claims 7-8, 15-16 and 25-26 are rejected under 35 U.S.C. 103(a) as being unpatentable over the references applied to claims 1, 9 and 19 above, and further in view of Crilly, Jr. et al. (Crilly) US 6,611,231 B2).

As per claim 7: the above references do not teach about capability data that indicates whether a corresponding access point is capable of directional antenna servicing, as claimed by applicant. However, in the same field of endeavor, Crilly teaches about adaptively steered antenna arrays, which can be used for WLAN (see col. 8, lines 38-51), wherein a routing information includes desirable transmit power level (hence power control capability), antenna pointing direction (see col. 7, line 15-col. 8, line 10). When the references are combined as shown above, the transmit power level and antenna pointing direction information will be user for selecting a desired WAP. Therefore, it would have been obvious for one of ordinary skill in the art at the time the invention was made to further modify the above references with the teaching of Crilly for the advantage of providing a highly reliable wireless link in the presence of interference (see col. 7, lines 40-44).

As per claim 8: the difference between the features of claim 7 and 8 is that in claim 8, the capability data is power control, as oppose to antenna direction in claim 7.

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Nonetheless, Crilly also teaches about transmitting power level (see col. 7, line 15-col. 8, line 10). Motivation is same as provided in the rejection of claim 7 above.

As per claim 15: the features of claim 15 are similar to the features of claim 7. Hence, claim 15 is rejected on the same ground and motivation as claim 7.

As per claim 16: the features of claim 16 are similar to the features of claim 8. Hence, claim 16 is rejected on the same ground and motivation as claim 8.

As per claim 25: the features of claim 25 are similar to the features of claim 7. Hence, claim 25 is rejected on the same ground and motivation as claim 7.

As per claim 26: the feature of claim 26 is similar to the features of claim 8. Hence, claim 26 is rejected on the same ground and motivation as claim 8.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Meless N. Zewdu whose telephone number is (571) 272-7873. The examiner can normally be reached on 8:30 am to 5:00 pm..

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Appiah Charles can be reached on (571) 272-7904. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

Any inquiry of a general nature relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (571) 272-2600.

Meless Zewdu



Examiner

12 January 2007.